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Jerome R. Drouillard 10213 Tims Lake Blvd. Grass Lake, MI 49240			EXAMINER COOLMAN, VAUGHN	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ARUN KUMAR JAURA, CHAN-WOO PARK,
MATTHEW DAVID HAMMOND, and
STEVEN GERALD THOMAS

Appeal 2010-001936
Application 10/064,998
Technology Center 3600

Before: JENNIFER D. BAHR, JOHN C. KERINS, and
PHILLIP J. KAUFFMAN, *Administrative Patent Judges*.

KAUFFMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 from a rejection of claims 1, and 3-11. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

THE INVENTION

Appellants' claimed invention relates to "the cooling needs of a hybrid electric vehicle's motor, such as an integrated-starter-generator, using a transmission cooling loop that flows through a specialized stator housing of the motor." Spec. 1, para. [0001]. Independent claim 1, reproduced below, is representative of the claimed subject matter (emphasis added):

1. A cooling system for a vehicle powertrain having a motor and a transmission comprising:

said motor having a stator housing;

a cooling loop in heat conductive contact with said motor stator housing and with said transmission;

said cooling loop comprising a heat exchanger and conduits providing a fluid flow connection between said motor stator housing said transmission, and said heat exchanger;

said cooling loop further comprising a mechanical transmission pump and an auxiliary pump; and

said cooling system further comprising a controller for receiving and processing input from at least one vehicle sensor, and for commanding said auxiliary pump to operate when the processed input of at least one vehicle sensor exceeds a pre-selected threshold.

REJECTIONS

Appellants seek review of the following rejections:

1. Rejection of claims 1, 3, 4, 6, and 9 under 35 U.S.C. § 103(a) as being unpatentable over Barrie (US 5,217,085; issued June 8, 1993).

2. Rejection of claim 5 under 35 U.S.C. § 103(a) as being unpatentable over Barrie and Prabhu (US 6,670,788 B2; issued December 30, 2003).
3. Rejection of claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Barrie and Barnhardt (US 4,284,913; issued August 18, 1981).
4. Rejection of claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Barrie and Harper (US 6,066,060; issued May 23, 2000).
5. Rejection of claims 10 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Barrie and Tanaka (US 5,443,130; issued August 22, 1995).

CONTENTIONS AND ISSUES

Independent claim 1 is the only independent claim on appeal. Each of the five rejections relies upon the finding that Barrie discloses a cooling loop as called for in independent claim 1. The finding that Barrie discloses a cooling loop as called for in independent claim 1 is based on the claim construction that claim 1 requires fluid flow between the motor stator housing, transmission, and heat exchanger, but does not more narrowly call for that flow to be serial (sequential) through those elements. *See* Ans. 8.

Appellants construe independent claim 1 to call for fluid flow in serial order from the heat exchanger to the transmission and then to the motor stator housing. App. Br. 5; Reply Br. 2¹.

¹ Appellants submitted an Appeal Brief dated August 22, 2007, and a Reply Brief dated December 11, 2007. Subsequently, in order to correct the claims appendix, Appellants' Appeal Brief was replaced by an Appeal Brief dated April 17, 2009. Appellants were notified by Docketing Notice dated December 22, 2009, that we would consider Appellants' Reply Brief dated December 11, 2007, in making our decision, and we have done so.

The issue presented by this appeal is whether independent claim 1 calls for the fluid flow provided by the cooling loop to be sequential through the heat exchanger to the transmission and then to the motor stator housing.

ANALYSIS

Independent claim 1 is directed to a cooling system for a vehicle powertrain that includes a motor with a stator housing, a transmission, and a cooling loop. The cooling loop is comprised of a heat exchanger and conduits providing “a fluid flow connection between” the motor stator housing, the transmission, and the heat exchanger.

Claim 1 does not explicitly recite that the fluid flow between the motor stator housing, the transmission, and the heat exchanger is “sequential,” or “serial.” Nor does claim 1 use other terms indicating the fluid flow provided by the cooling loop is sequential.

Appellants’ Specification does not provide a lexicographical definition of the phrase “fluid flow connection between,” or any of the terms in that phrase. The ordinary and customary meaning of “between” is “joining, connecting,” for example, “a passageway between two rooms.”² Thus, the ordinary meaning of “between” suggests that independent claim 1 calls for a cooling loop providing fluid flow connecting the motor stator housing, the transmission, and the heat exchanger.

Appellants’ Specification describes an embodiment of claim 1 having a cooling loop 68 that provides fluid flow from the heat exchanger (Integrated Starter Generator (ISG)/transmission oil cooler 78) to the transmission (hybrid electric vehicle (HEV) transmission 64) and then to the

² WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY (1993) (“between,” prep., definition 3b) (available at <http://lionreference.chadwyck.com>).

motor stator housing (ISG 63). Spec. 7-8, para. [0032]; *see also* App. Br. 3-4. While this embodiment describes sequential fluid flow from the heat exchanger to the transmission and then to the motor stator housing, we decline to import this particular embodiment into claim 1 because the language of claim 1 is broader than this embodiment. *See Superguide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (“Though understanding the claim language may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not a part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.” (citation omitted)).

Accordingly, independent claim 1, when read consistently with Appellants’ Specification, calls for a cooling loop providing fluid flow connecting the motor stator housing, the transmission, and the heat exchanger without regard for the sequence of that flow. *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989) (the words of the claim must be given their plain meaning unless the plain meaning is inconsistent with the specification).

The Examiner’s finding that Barrie discloses a cooling loop as called for in claim 1 is well supported by the reference. *See* Ans. 3-4. Barrie discloses that transmission lubrication circuit 30 is supplied with hydraulic fluid from reservoir 44 to the input side of pump 46. Barrie, col. 4, ll. 18-22; fig. 2. Pump 46 discharges via line 48 to pressure regulating valve 50. Barrie, col. 4, ll. 22-24; fig. 2. When pump 46 increases in speed, it forces pressure regulating valve 50 to a position so that fluid is discharged to both outlet port 70 of transmission lubrication circuit 30 and to outlet port 72 of

the motor cooling circuit.³ Barrie, col. 4, ll. 41-48; fig. 2. From outlet port 70 of the transmission lubrication circuit 30, hydraulic fluid returns via sump pump 52 to reservoir 44. Barrie, col. 4, ll. 24-27 fig. 2. From outlet port 72 of the motor cooling circuit, hydraulic fluid passes through heat exchanger 62 and via line 98 to reservoir 44. Barrie, col. 4, l. 62 – col. 5, l. 5; fig. 2. As such, Barrie discloses fluid flow that connects transmission lubrication circuit 30, the motor cooling circuit, and heat exchanger 62, in that they are each in fluid communication with reservoir 44.

Appellants assert that Barrie does not disclose serial fluid flow, and similarly that Barrie does not disclose fluid flowing directly from the transmission to the motor. App. Br. 4-5; Reply Br. 2. These assertions are premised on a claim construction that independent claim 1 calls for sequential flow from the heat exchanger to the transmission and then to the motor stator housing. Based on our claim construction, *supra*, these assertions are unconvincing because they are not commensurate in scope with independent claim 1.

As such, we sustain the rejection of independent claim 1. Given that the remaining claims on appeal depend from independent claim 1, each rejection relies upon the finding of fact that Barrie discloses a cooling loop as called for in independent claim 1 (Ans. 3-7), and Appellants' only argument is that Barrie does not disclose sequential fluid flow (*see* App. Br. 5-6), we also sustain the rejections of the remaining claims.

³ Appellants concede that “valve 50 splits the flow from pump 46 so that some flow will be permitted to motor 28 and some oil will flow to lubrication system 30.” Reply Br. 2.

CONCLUSION

Independent claim 1 does not call for the fluid flow provided by the cooling loop to be sequential through the heat exchanger to the transmission and then to the motor stator housing.

DECISION

We affirm the Examiner's decision to reject claims 1 and 3-11.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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